UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/516,284	03/01/2000	Brett A. Bernath	00CXT0330D	3468

				EXAMINER
20594	7590	06/07/2004		SHANG, ANNAN Q

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DATE MAILED: 06/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _10 February 2004_.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under _Ex parte Quayle_, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1,2,4-6 and 11-25_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1,2,4-6 and 11-25_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by
> another filed in the United States before the invention by the applicant for patent or (2) a patent
> granted on an application for patent by another filed in the United States before the invention by the
> applicant for patent, except that an international application filed under the treaty defined in section
> 351(a) shall have the effects for purposes of this subsection of an application filed in the United States
> only if the international application designated the United States and was published under Article 21(2)
> of such treaty in the English language.

2.   Claims 1, 2, 4-6 and 11-16, are rejected under 35 U.S.C. 102(e) as being

anticipated by **Isono et al (6,216,171).**

As to claim 1, note the **Isono et al** reference figures 1 and 2, disclose cable

modem control method giving priority to packets from the cable head end over packets

from the subscriber LAN, the cable modem comprising:

The claimed "a first interface for receiving data from a cable media" is met by

Interface between Media Access Control (MAC-F) Filter 31 of Cable Modem (CM) 9 and

Coaxial Cable 8 (figs. 1, 2 and col. 3, lines 39-51), which receives data from a cable

media;

the claimed "a pattern matching engine that evaluates patterns in the data that is

received at the first interface of the cable modem..." is met by MAC-F 31 and Internet-

Protocol-Filter/Time-to-Live (IP/TTL) filters 33 (MAC-F/IP/TTL 31/33) (col. 3, lines 39-50

and col. 4, lines 1-25), note that the destination addresses received at the first Interface

of CM 9 contains bit or byte length or patterns and the MAC-F/IP/TTL 31/33 is a

programmable pattern matching engine that determines appropriate procedures for

treatment of bit or byte length or patterns "data" by comparing the bit or byte length or

patterns of addresses, to the store bit or byte length or patterns of addresses, where

MAC-F/IP/TTL 31/33 automatically configures itself to the various addresses that are

being received and extracts each media and destination address "patterns that are

desired to be matched..." and outputs the extracted data to dynamic-host configuration-

protocol/domain-naming-system/simple-network management-protocol

(DHCP/DNS/SNMP).

As to claim 2, Isono further discloses where the MAC-F/IP/TTL 31/33 matches

address segments of the data that is received at the first interface of CM 9 (col. 5, lines

41-col. 6, line 8).

As to claim 4, Isono further discloses where the MAC-F/IP/TTL 31/33 enables

determination of whether to accept a frame at CM 9 quicker than if the CM 9 were

required to wait on processing at DHCP/DNS/SNMP units 32 that inherently includes a

central microprocessor (col. 3, lines 39-50 and col. 4, lines 1-25), note that

MAC-F/IP/TTL 31/33 processes the addresses and associated data and outputs the

acceptable parameters to DHCP/DNS/SNMP units 32 and MAC-AA 34 for further

processing.

As to claims 5 and 6, Isono further discloses where MAC-F/IP/TTL 31/33 enables

pattern matching of various length frame portions for the various devices on the LAN,

which includes Personal Computer 12-1 to 12-n, Home Terminal 13-1, TV 14-1, etc.,

(fig. 1, col. 5, lines 44-65 and col. 6, lines 39-67), where the various length frame

portions are selected from bit length, byte length, etc., (col. 5, lines 19-40).

As to claim 11, note the **Isono et al** reference figures 1 and 2, disclose cable

modem control method giving priority to packets from the cable head end over packets

from the subscriber LAN and further disclose a method for a communication device to

compare a predetermined pattern to a pattern that corresponds to a portion of a data

frame, the method comprising:

the claimed "determining acceptable parameters for the data frames that are to

be received at the communication device" is met by Media Access Control (MAC-F)

Filter 31 of Cable Modem (CM) 9 (figs. 1, 2 and col. 3, lines 39-51), which receives data

from a cable media via Converter 7 and determines acceptable parameters for the data

frames that are received at Cable Modem (CM) 9;

the claimed "programming the acceptable parameters into a pattern matching

engine in the communication device" is met by MAC-F 31 (col. 3, lines 39-51), note that

MAC-F 31 extracts acceptable parameters of data frames and outputs the extracted

data into dynamic-host configuration-protocol/domain-naming-system/simple-network

management-protocol (DHCP/DNS/SNMP) units 32 and Internet-Protocol-Filter/Time-

to-Live (IP/TTL) filters 33 (DHCP/DNS/SNMP-IP/TTL 32/33) "pattern matching engine"

(col. 3, lines 39-50 and col. 4, lines 1-25) of the CM 9, which receives the data;

the claimed "parsing the data to obtain a predetermined portion of the data..." is

met by MAC Address Adder (MAC-AA) 34 (col. 6, lines 57-67), which receives data

from DHCP/DNS/SNMP-IP/TTL 32/33 and parses the data to obtain a predetermined

portion and compares the predetermined portion of the data with the acceptable

parameters stored in DHCP/DNS/SNMP-IP/TTL 32/33, note further that

DHCP/DNS/SNMP-IP/TTL 32/33 also processes data based on assigning priority (col.

8, lines 30-39 and line 65-col. 9, line 14).

As to claim 12, Isono further discloses registering the result of the comparison

in Memory 33A in a suitable format, such as, IP format, etc., (col. 4, lines 26-38 and

lines 52+) for access by a microprocessor inherent to CM 9.

As to claim 13, Isono further discloses a method comprising reading the

registered results with a microprocessor such that the microprocessor may determine to

drop or accept the data frame that has been received at the CM 9 (col. 6, lines 57-col. 7,

line 18 and lines 36-55).

As to claim 14, Isono further disclose where the predetermined portion of the

data is an address portion of the frame (col. 5, lines 19-40 and col. 6, lines 39-67).

As to claim 15, Isono further disclose where the patterns in the data comprise

one or more of MAC address, an IP address and a protocol identifier of an MPEG frame

(fig. 1 and col. 5, line 44-col. 6, line 8 and lines 33+).

As to claim 16, Isono further discloses where CM 9 includes one or more logical

link control filtering, protocol filtering and security ID filtering in a Multimedia Cable

Network System (col. 3, line 39-col. 4, line 1-28).

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

4.   Claims 17-25, are rejected under 35 U.S.C. 103(a) as being unpatentable over

Isono et al (6,216,171) in view of **Sherer et al (6,434,165).**

As to claim 17, Isono teaches all the claim limitation as previously discussed with

respect to claim 1 above, but fails to explicitly teach DES/CRC engine 423 performing

DES decryption or CRC processing of a received data frame after a microprocessor

receives data from the CRC 423 and determines to accept a received frame based on

the data received from the CRC 423.

However, note the **Sherer et al** reference figure 4, discloses a communications

network system that transmits and receives communication frames and CRC couple to

MAC in a cable modem system for calculating the CRC value based upon the received

information for a match or valid and invalid frame based on CRC value, (figs. 1, 4, col.

4, line 61-col. 5, line 13 and col. 7, lines 56-col. 8, line 8).

Therefore it would have been obvious to one of ordinary skill in the art at the time

of the invention to incorporate the teaching of Sherer into the system of Isono to provide

CRC checker to determine valid and invalid frames and process the frames accordingly.

As to claim 18, note the **Isono et al** reference figures 1 and 2, disclose cable

modem control method giving priority to packets from the cable head end over packets

from the subscriber LAN, the cable modem comprising:

the claimed "a pattern matching engine receives a pattern and a data stream and

generating an index entry if the pattern is present in the data stream" is met by MAC-F

31 and Internet-Protocol-Filter/Time-to-Live (IP/TTL) filters 33 (MAC-F/IP/TTL 31/33)

(figs. 1, 2, col. 3, lines 39-50 and col. 4, lines 1-25), note that the destination addresses

received at the first Interface of CM 9 contains bit or byte length or patterns and the

MAC-F/IP/TTL 31/33 is a programmable pattern matching engine that generates an

index entry of bit or byte length or patterns "data" are present in the data stream, by

comparing the bit or byte length or patterns of addresses, to the store bit or byte length

or patterns of addresses, where MAC-F/IP/TTL 31/33 automatically configures itself to

the various addresses that are being received and extracts each media and destination

address and outputs the extracted data to dynamic-host configuration-protocol/domain-

naming-system/simple-network management-protocol (DHCP/DNS/SNMP);

the claimed "a microprocessor reading the index entry..." is inherent to MAC-F

31 and Internet-Protocol-Filter/Time-to-Live (IP/TTL) filters 33 (MAC-F/IP/TTL 31/33)

(col. 3, lines 39-50 and col. 4, lines 1-25), which reads the index entry of the bit or byte

length or patterns to determine whether to continue receipt of the data stream, and

processes the received frames accordingly.

Isono fails to explicitly teach a CRC engine that performs CRC processing.

However, note the **Sherer et al** reference figure 4, discloses a communications

network system that transmits and receives communication frames and CRC couple to

MAC in a cable modem system for calculating the CRC value based upon the received

information for a match or valid and invalid frame based on CRC value, (figs. 1, 4, col.

4, line 61-col. 5, line 13 and col. 7, lines 56-col. 8, line 8).

Therefore it would have been obvious to one of ordinary skill in the art at the time

of the invention to incorporate the teaching of Sherer into the system of Isono to provide

CRC checker to determine valid and invalid frames and process the frames accordingly.

Claim 19 is met as previously discussed with respect to claim 15.

Claim 20 is met as previously discussed with respect to claim 16.

As to claim 21, Isono inherently teaches where CM 9 comprises DMA Controller

coupled to a microprocessor and MAC-F/IP/TTL 31/33 filters to facilitate movement of

data between the microprocessor and MAC-F/IP/TTL 31/33 filters that enables

transferring of the extracted data DHCP/DNS/SNMP units 32 and MAC-AA 34 (col. 3,

lines 39-55 and col. 4, lines 1-28), but fails to explicitly teach DES/CRC engine which

has been discussed with respect to claim 17.

As to claim 22, the claimed microprocessor comprising a programmable media

access controller is inherent CM 9 since MAC-F/IP/TTL 31/33 filters are programmable

to meet the various data and addresses for the various devices on the LAN of CM 9.

Claim 23 is met as previously discussed with respect to claim 17.

Claim 24 is met as previously discussed with respect to claim 15.

Claim 25 is met as previously discussed with respect to claim 16.

Response to Arguments

5.   Applicant's arguments with respect to claims 1, 2, 4-6 and 11-25 have been

considered but are moot in view of the new ground(s) of rejection discussed above. This

is Office Action is Non-Final.

Conclusion

6.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure.

Liu et al (6,618,386) disclose hosting a cable modem in a computer using a

virtual bridge.

Merrill et al (6,618,353) disclose router for use with a link that has a set of
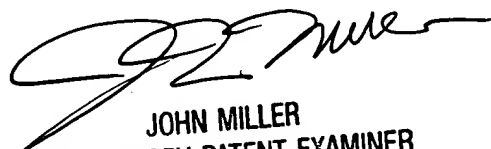
concurrent channels.

7.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to **Annan Q Shang** whose telephone number is **703-305-**

2156. The examiner can normally be reached on **700am-500pm**.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, **John W Miller** can be reached on **703-305-4795**. The fax phone number

for the organization where this application or proceeding is assigned is **703-872-9306**.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the **Electronic**

Business Center (EBC) at 866-217-9197 (toll-free).

Annan Q. Shang.

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